

PATENT  
Atty. Docket No. 1155.005

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Douglas J. Jolly et al.

Serial No.: to be assigned Group Art Unit: to be assigned  
Filed: December 30, 1997 Examiner: to be assigned  
For: METHODS FOR ADMINISTRATION OF RECOMBINANT GENE  
DELIVERY VEHICLES FOR TREATMENT OF HEMOPHILIA AND  
OTHER DISORDERS

**DECLARATION UNDER 37 CFR §1.821(f)**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

I hereby state that the content of the paper and computer readable copies of the Sequence Listing, submitted in accordance with 37 C.F.R. §1.821(c) and (e), respectively, are the same.

I hereby declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both (18 USC 1001), and may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

By:   
Norman J. Kruse, Ph.D.  
Attorney for Applicants  
Reg. No. 35,235

December 7, 1997

CHIRON CORPORATION  
Intellectual Property - R440  
P.O. Box 8097  
Emeryville, California 94662-8097  
(510) 923-3520  
(510) 655-3542 (fax)

***INPUT SET: S23358.raw***

**This Raw Listing contains the General Information Section and those Sequences containing ERRORS.**

**SEQUENCE LISTING**

(1) General Information:

Does Not Comply  
Corrected Diskette Needed

(i) APPLICANT: Chiron Corporation

(ii) TITLE OF INVENTION: Methods for Administration of Recombinant Gene Delivery Vehicles for Treatment of Hemophilia and Other Dis

(iii) NUMBER OF SEQUENCES: (83) 46 steps (p. 16)

↑  
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return - All  
text must  
be visible on  
page

(iv) CORRESPONDENCE ADDRESS:

- (A) ADDRESSEE: Chiron Corporation
- (B) STREET: 4560 Horton Street
- (C) CITY: Emeryville
- (D) STATE: California
- (E) COUNTRY: U.S.A.
- (F) ZIP: 94608

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be visible on  
page

(v) COMPUTER READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
- (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: PatentIn Release #1.0, Version #1.30

Please Note:

(vi) CURRENT APPLICATION DATA:

- (A) APPLICATION NUMBER:
- (B) FILING DATE:
- (C) CLASSIFICATION:

This file was  
not saved as  
A SUT (PES) text,

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Kruse, Norman J.  
(B) REGISTRATION NUMBER: 35,235  
(C) REFERENCE/DOCKET NUMBER: 1155.005

regarded by  
Tennessee Peter;

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (510) 923-3520  
(B) TELEFAX: (510) 655-3542

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converted disk file  
is saved as ASCI  
text, or the PTO  
will not process it.

## **ERRORRED SEQUENCES FOLLOW:**

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039**

DATE: 02/10/98  
TIME: 11:36:47

**INPUT SET: S23358.raw**

103 (2) INFORMATION FOR SEQ ID NO:7:  
 104 (i) SEQUENCE CHARACTERISTICS:  
 --> 105 (A) LENGTH: 77 base pairs  
 106 (B) TYPE: nucleic acid  
 107 (C) STRANDEDNESS: single  
 108 (D) TOPOLOGY: linear  
 109 (ii) MOLECULE TYPE: DNA (genomic)  
 110 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:  
 111 AGTGAATTG AGCTCGGTAC CCGGGGATCC TCTAGAGTCG ACCTGCAGGC  
 --> 112 ATGCAAGCTT 60  
 113 GCGTAATCA TGGTCAT  
 114

77

format error

260

188 (2) INFORMATION FOR SEQ ID NO:15:  
 189 (i) SEQUENCE CHARACTERISTICS:  
 --> 190 (A) LENGTH: 8332 base pairs  
 191 (B) TYPE: nucleic acid  
 192 (C) STRANDEDNESS: single  
 193 (D) TOPOLOGY: linear  
 194 (ii) MOLECULE TYPE: DNA (genomic)  
 195 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:  
 196  
 197 GCGCCAGTCC TCCGATTGAC TGAGTCGCC GGGTACCCGT GTATCCAATA  
 --> 198 AACCTCTTG 60  
 199  
 200 CAGTTGCATC CGACTTGTGG TCTCGCTGTT CCTTGGGAGG GTCTCCTCTG  
 --> 201 AGTGATTGAC 120  
 202  
 203 TACCCGTCAG CGGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCGGGAGA  
 --> 204 CCCCTGCCA 180  
 205  
 206 GGGACCACCG ACCCACCAACC GGGAGGTAAG CTGGCCAGCA ACTTATCTGT  
 --> 207 GTCTGTCCGA 240  
 208  
 209 TTGCTCTAGTG TCTATGACTG ATTTTATGCG CCTGCGTCGG TACTAGTTAG  
 --> 210 CTAACTAGCT 300  
 211  
 212 CTGTATCTGG CGGACCCGTG GTGGAACGTGA CGAGTTCGGA ACACCCGGCC  
 --> 213 GCAACCCCTGG 360  
 214  
 215 GAGACGTCCC AGGGACTTCG GGGGCCGT TTGTGGCCCG ACCTGAGTCC  
 --> 216 AAAAATCCCC 420  
 217  
 218 ATCGTTTTGG ACTCTTTGGT GCACCCCCCT TAGAGGAGGG ATATGTGGTT  
 --> 219 CTGGTAGGAG 480  
 220  
 221 ACGAGAACCT AAAACAGTTC CCACCTCCGT CTGAATTTT GCTTCGGTT  
 --> 222 TGGGACCGAA 540  
 223  
 224 GCCCGGCCGC GCGTCTTGTG TGCTGCAGCA TCGTTCTGTG TTGTCTCTGT  
 --> 225 CTGACTGTGT 600  
 226  
 227 TTCTGTATTT GTCTGAGAAT ATGGGCCAGA CTGTTACAC TCCCTTAAGT

Same

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**Explanation of error that occurred throughout the Sequence Listing:**

For all of your nucleic sequences, the nucleic number at the end of each line "wrapped" down to the next line. This occurred if your file was retrieved in a word processor after creating it in PatentIn. Your word processor probably has different margin settings than those used in PatentIn. (A right margin set at least to .3 in your word processor will prevent wrapping)

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039DATE: 02/10/98  
TIME: 11:36:49

INPUT SET: S23358.raw

--> 228 TTGACCTTAG 660  
229  
230 GTCACTGGAA AGATGTCGAG CGGATCGCTC ACAACCAGTC GGTAGATGTC  
--> 231 AAGAAGAGAC 720  
232  
233 GTTGGGTTAC CTTCTGCTCT GCAGAAATGGC CAACCTTTAA CGTCGGATGG  
--> 234 CCGCGAGACG 780  
235  
236 GCACCTTTAA CCGAGACCTC ATCACCCAGG TTAAGATCAA GGTCTTTCA  
--> 237 CCTGCCCGC 840  
238  
239 ATGGACACCC AGACCAGGTC CCCTACATCG TGACCTGGGA AGCCTGGCT  
--> 240 TTTGACCCCC 900  
241  
242 CTCCCTGGGT CAAGCCCTTT GTACACCCTA AGCCTCCGCC TCCTCTTCCT  
--> 243 CCATCCGCC 960  
244  
245 CGTCTCTCCC CCTTGAAACCT CCTCGTTCGA CCCCCGCCTCG ATCCTCCCTT  
--> 246 TATCCAGCCC 1020  
247  
248 TCACTCCTTC TCTAGGCGCC AAACCTAAAC CTCAAGTTCT TTCTGACAGT  
--> 249 GGGGGCCGC 1080  
250  
251 TCATCGACCT ACTTACAGAA GACCCCCGC CTTATAGGGA CCCAAGACCA  
--> 252 CCCCCCTCCG 1140  
253  
254 ACAGGGACGG AAATGGTGG AAGCGACCC CTGCGGGAGA GGCACCGGAC  
--> 255 CCCTCCCCAA 1200  
256  
257 TGGCATCTCG CCTACGTGGG AGACGGGAGC CCCCTGTGGC CGACTCCACT  
--> 258 ACCTCGCAGG 1260  
259  
260 CATTCCCCCT CCGCGCAGGA GGAAACGGAC AGCTTCAATA CTGGCCGTT  
--> 261 TCCTCTTCTG 1320  
262  
263 ACCTTTACAA CTGGAAAAAT AATAACCCTT CTTTTCTGA AGATCCAGGT  
--> 264 AACTGACAG 1380  
265  
266 CTCTGATCGA GTCTGTTCTC ATCACCCATC AGCCCACCTG GGACGACTGT  
--> 267 CAGCAGCTGT 1440  
268  
269 TGGGGACTCT GCTGACCGGA GAAGAAAAAC AACGGGTGCT CTTAGAGGCT  
--> 270 AGAAAGCGG 1500  
271  
272 TGCGGGCGA TGATGGGCGC CCCACTAAC TGCCCAATGA AGTCGATGCC  
--> 273 GCTTTCCCC 1560  
274  
275 TCGAGCGCCC AGACTGGGAT TACACCACCC AGGCAGGTAG GAACCACCTA  
--> 276 GTCCACTATC 1620  
277  
278 GCCAGTTGCT CCTAGCGGGT CTCCAAAACG CGGGCAGAAG CCCCACCAAT  
--> 279 TTGGCCAAGG 1680  
280

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039**DATE: 02/10/98  
TIME: 11:36:52**INPUT SET: S23358.raw**

281 TAAAAGGAAT AACACAAGGG CCCAATGAGT CTCCCTCGGC CTTCCCTAGAG  
--> 282 **AGACTTAAGG** 1740  
283  
284 AAGCCTATCG CAGGTACACT CCTTATGACC CTGAGGACCC AGGGCAAGAA  
--> 285 **ACTAATGTGT** 1800  
286  
287 CTATGTCTTT CATTGGCAG TCTGCCAG ACATTGGAG AAAGTTAGAG  
--> 288 **AGGTTAGAAC** 1860  
289  
290 ATTTAAAAAA CAAGACGCTT GGAGATTGG TTAGAGAGGC AGAAAAGATC  
--> 291 **TTTAATAAAC** 1920  
292  
293 GAGAAACCCC GGAAGAAAGA GAGGAACGTA TCAGGAGAGA AACAGAGGAA  
--> 294 **AAAGAAGAAC** 1980  
295  
296 GCCGTAGGAC AGAGGATGAG CAGAAAGAGA AAGAAAGAGA TCGTAGGAGA  
--> 297 **CATAGAGAGA** 2040  
298  
299 TGAGCAAGCT ATTGGCCACT GTCGTTAGTG GACAGAAACA GGATAGACAG  
--> 300 **GGAGGAGAAC** 2100  
301  
302 GAAGGAGGTC CCAACTCGAT CGCGACCAGT GTGCCTACTG CAAAGAAAAG  
--> 303 **GGGCACTGGG** 2160  
304  
305 CTAAAGATTG TCCCAAGAAA CCACGAGGAC CTCGGGGACC AAGACCCCAG  
--> 306 **ACCTCCCTCC** 2220  
307  
308 TGACCCCTAGA TGACTAGGGA GGTCAGGGTC AGGAGCCCCC CCCTGAACCC  
--> 309 **AGGATAACCC** 2280  
310  
311 TCAAAGTCGG GGGGCAACCC GTCACCTTCC TGGTAGATAC TGGGGCCCAA  
--> 312 **CACTCCGTGC** 2340  
313  
314 TGACCCAAAA TCCTGGACCC CTAAGTGATA AGTCTGCCTG GGTCCAAGGG  
--> 315 **GCTACTGGAG** 2400  
316  
317 GAAAGCGGTA TCGCTGGACC ACGGATCGCA AAGTACATCT AGCTACCGGT  
--> 318 **AAGTCACCC** 2460  
319  
320 ACTCTTCCT CCATGTACCA GACTGTCCCT ATCCTCTGTT AGGAAGAGAT  
--> 321 **TTGCTGACTA** 2520  
322  
323 AACTAAAAGC CCAAATCCAC TTTGAGGGAT CAGGAGCTCA GGTTATGGGA  
--> 324 **CCAATGGGC** 2580  
325  
326 AGCCCTGCA AGTGTGACC CTAATATAG AAGATGAGCA TCGGCTACAT  
--> 327 **GAGACCTCAA** 2640  
328  
329 AAGAGCCAGA TGTTTCTCTA GGGTCCACAT GGCTGTCTGA TTTTCCTCAG  
--> 330 **GCCTGGCGG** 2700  
331  
332 AAACCGGGGG CATGGGACTG GCAGTTCGCC AAGCTCCTCT GATCATACCT  
--> 333 **CTGAAAGCAA** 2760

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039DATE: 02/10/98  
TIME: 11:36:54

INPUT SET: S23358.raw

334  
335 CCTCTACCCC CGTGTCCATA AAACAATACC CCATGTCACA AGAAGCCAGA  
--> 336 CTGGGGATCA 2820  
337  
338 AGCCCCACAT ACAGAGACTG TTGGACCAGG GAATACTGGT ACCCTGCCAG  
--> 339 TCCCCCTGGA 2880  
340  
341 ACACGCCCT GCTACCCGTT AAGAAACCAG GGACTAATGA TTATAGGCCT  
--> 342 GTCCAGGATC 2940  
343  
344 TGAGAGAACT CAACAAGCGG GTGGAAGACA TCCACCCAC CGTGCCAAC  
--> 345 CCTTACAACC 3000  
346  
347 TCTTGAGCGG GCTCCCACCG TCCCACCAAGT GGTACACTGT GCTTGATTAA  
--> 348 AAGGATGCCT 3060  
349  
350 TTTTCTGCCT GAGACTCCAC CCCACCAAGTC AGCCTCTCTT CGCCTTTGAG  
--> 351 TGGAGAGATC 3120  
352  
353 CAGAGATGGG AATCTCAGGA CAATTGACCT GGACCAGACT CCCACAGGGT  
--> 354 TTCAAAAACA 3180  
355  
356 GTCCCACCCCT GTTTGATGAG GCACTGCACA GAGACCTAGC AGACTTCCGG  
--> 357 ATCCAGCAC 3240  
358  
359 CAGACTTGAT CCTGCTACAG TACGTGGATG ACTTACTGCT GGCGGCCACT  
--> 360 TCTGAGCTAG 3300  
361  
362 ACTGCCAAC AAGTACTCGG GCCCTGTTAC AAACCCTAGG AACCTCGGG  
--> 363 TATCGGGCCT 3360  
364  
365 CGGCCAAGAA AGCCCAAATT TGCCAGAAC AGGTCAAGTA TCTGGGTAT  
--> 366 CTTCTAAAAG 3420  
367  
368 AGGGTCAGAG ATGGCTGACT GAGGCCAGAA AAGAGACTGT GATGGGGCAG  
--> 369 CCTACTCCGA 3480  
370  
371 AGACCCCTCG ACAACTAAGG GAGTTCCCTAG GGACGGCAGG CTTCTGTCGC  
--> 372 CTCTGGATCC 3540  
373  
374 CTGGGTTTGC AGAAATGGCA GCCCCCTTGT ACCCTCTCAC CAAAACGGGG  
--> 375 ACTCTGTTA 3600  
376  
377 ATTGGGGCCC AGACCAACAA AAGGCCTATC AAGAAATCAA GCAAGCTCTT  
--> 378 CTAACTGCC 3660  
379  
380 CAGCCCTGGG GTTGCCAGAT TTGACTAAGC CCTTTGAECT CTTTGTGAC  
--> 381 GAGAAGCAGG 3720  
382  
383 GCTACGCCAA AGGTGTCCATA ACGCAAAAC TGGGACCTTG GCGTCGGCCG  
--> 384 GTGGCCTACC 3780  
385  
386 TGTCCAAAAA GCTAGACCCA GTAGCAGCTG GGTGGCCCCC TTGCCTACGG

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039DATE: 02/10/98  
TIME: 11:36:57

INPUT SET: S23358.raw

--> 387 ATGGTAGCAG 3840  
388  
389 CCATTGCCGT ACTGACAAAG GATGCAGGCA AGCTAACCAT GGGACAGCCA  
--> 390 CTAGTCATTC 3900  
391  
392 TGGCCCCCA TGCAGTAGAG GCACTAGTCA AACAAACCCC CGACCGCTGG  
--> 393 CTTTCCAACG 3960  
394  
395 CCCGGATGAC TCACTATCAG GCCTTGCTTT TGGACACGGA CGGGGTCCAG  
--> 396 TTCGGACCGG 4020  
397  
398 TGTTAGCCCT GAACCCGGCT ACGCTGCTCC CACTGCCTGA GGAAGGGCTG  
--> 399 CAACACAACT 4080  
400  
401 GCCTTGATAT CCTGGCCGAA GCCCACGGAA CCCGACCCGA CCTAACGGAC  
--> 402 CAGCCGCTCC 4140  
403  
404 CAGACGCCGA CCACACCTGG TACACGGATG GAAGCAGTCT CTTACAAGAG *Liter*  
--> 405 GGACAGCGTA 4200  
406  
407 AGGGGGGAGC TGCAGGTGACC ACCGAGACCG AGGTAATCTG GGCTAAAGCC  
--> 408 CTGCCAGCCG 4260  
409  
410 GGACATCCGC TCAGCGGGCT GAACTGATAG CACTCACCCA GGCCCTAAAG  
--> 411 ATGGCAGAAG 4320  
412  
413 GTAAGAAGCT AAATGTTTAT ACTGATAGCC GTTATGCTTT TGCTACTGCC  
--> 414 CATATCCATG 4380  
415  
416 GAGAAATATA CAGAAGGGT GGGTTGCTCA CATCAGAAGG CAAAGAGATC  
--> 417 AAAAATAAAG 4440  
418  
419 ACGAGATCTT GGCCCTACTA AAAGCCCTCT TTCTGCCAA AAGACTTAGC  
--> 420 ATAATCCATT 4500  
421  
422 GTCCAGGACA TCAAAAGGGA CACAGCGCCG AGGCTAGAGG CAACCGGATG  
--> 423 GCTGACCAAG 4560  
424  
425 CGGCCCGAAA GGCAGCCATC ACAGAGACTC CAGACACCTC TACCCCTCCTC  
--> 426 ATAGAAAATT 4620  
427  
428 CATCACCTA CACCTCAGAA CATTTCATT ACACAGTGAC TGATATAAAG  
--> 429 GACCTAACCA 4680  
430  
431 AGTTGGGGGC CATTATGAT AAAACAAAGA AGTATTGGGT CTACCAAGGA  
--> 432 AACCTGTGA 4740  
433  
434 TGCCGTACCA GTTTACTTT GAATTATTAG ACTTTCTTCA TCAGCTGACT  
--> 435 CACCTCAGCT 4800  
436  
437 TCTCAAAAAT GAAGGCTCTC CTAGAGAGAA GCCACAGTCC CTACTACATG  
--> 438 CTGAACCGGG 4860  
439

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039DATE: 02/10/98  
TIME: 11:36:59

INPUT SET: S23358.raw

440 ATCGAACACT CAAAAATATC ACTGAGACCT GCAAAGCTTG TGCACAAGTC  
--> 441 AACGCCAGCA 4920  
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443 AGTCTGCCGT TAAACAGGGGA ACTAGGGTCC CGGGGCATCG GCCCGGCACT  
--> 444 CATTGGGAGA 4980  
445  
446 TCGATTTCAC CGAGATAAAG CCCGGATTGT ATGGCTATAA ATATCTTCTA  
--> 447 GTTTTTATAG 5040  
448  
449 ATACCTTTTC TGGCTGGATA GAAGCCTTCC CAACCAAGAA AGAAACCGCC  
--> 450 AACGTCGTAA 5100  
451  
452 CCAAGAAGCT ACTAGAGGAG ATCTTCCCCA GGTCGGCAT GCCTCAGGTA  
--> 453 TTGGGAACTG 5160  
454  
455 ACAATGGGCC TGCCCTCGTC TCCAAGGTGA GTCAGACAGT GGCGATCTG  
--> 456 TTGGGGATTG 5220  
457  
458 ATTGGAAATT ACATTGTGCA TACAGACCCC AAAGCTCAGG CCAGGTAGAA  
--> 459 AGAATGAATA 5280  
460  
461 GAACCATCAA GGAGACTTTA ACTAAATTAA CGCTTGCAAC TGGCTCTAGA  
--> 462 GACTGGGTGC 5340  
463  
464 TCCTACTCCC CTTAGCCCTG TACCGAGCCC GCAACACGCC GGGCCCCCAT  
--> 465 GGCCTCACCC 5400  
466  
467 CATATGAGAT CTTATATGG GCACCCCCGC CCCTTGTAAA CTTCCCTGAC  
--> 468 CCTGACATGA 5460  
469  
470 CAAGAGTTAC TAACAGCCCC TCTCTCCAAG CTCACTTACA GGCTCTCTAC  
--> 471 TTAGTCCAGC 5520  
472  
473 ACGAAGTCTG GAGACCTCTG GCGGCAGCCT ACCAAGAACAA ACTGGACCGA  
--> 474 CCGGTGGTAC 5580  
475  
476 CTCACCCCTTA CCGAGTCGGC GACACAGTGT GGGTCCGCCG ACACCAGACT  
--> 477 AAGAACCTAG 5640  
478  
479 AACCTCGCTG GAAAGGACCT TACACAGTCC TGCTGACCAC CCCCACCGCC  
--> 480 CTCAAAGTAG 5700  
481  
482 ACGGCATCGC AGCTTGGATA CACGCCGCC ACgtGAAGGC TGCGACCCCC  
--> 483 GGGGGTGGAC 5760  
484  
485 CATCCTCTAG ACTGACATGG CGCGTTCAAC GCTCTAAAAA CCCCTTAAAAA  
--> 486 ATAAGGTTAA 5820  
487  
488 CCCGGAGGC CCCCTAATCC CCTTAATTCT TCTGATGCTC AGAGGGGTCA  
--> 489 GTACTGCTTC 5880  
490  
491 GCCCGGCTCC AGTCCTCATC AAGTCTATAA TATCACCTGG GAGGTAACCA  
--> 492 ATGGAGATCG 5940

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039DATE: 02/10/98  
TIME: 11:37:02

INPUT SET: S23358.raw

493  
494 GGAGACGGTA TGGGCAACTT CTGGCAACCA CCCTCTGTGG ACCTGGTGGC  
--> 495 **CTGACCTTAC** 6000  
496  
497 CCCAGATTTA TGTATGTTAG CCCACCATGG ACCATCTTAT TGGGGGCTAG  
--> 498 **AATATCAATC** 6060  
499  
500 CCCTTTTCT TCTCCCCGG GCCCCCTTG TTGCTCAGGG GGCAGCAGCC  
--> 501 **CAGGCTGTTc** 6120  
502  
503 CAGAGACTGC GAAGAACCTT TAACCTCCCT CACCCCTCGG TGCAACACTG  
--> 504 **CCTGGAACAG** 6180  
505  
506 ACTCAAGCTA GACCAGACAA CTCATAAATC AAATGAGGGG TTTTATGTTT  
--> 507 **GCCCCGGGCC** 6240  
508  
509 CCACCGCCCC CGAGAATCCA AGTCATGTGG GGGTCCAGAC TCCTTCTACT  
--> 510 **GTGCCTATTG** 6300  
511  
512 GGGCTGTGAG ACAACCGGTA GAGCTTACTG GAAGCCCTCC TCATCATGGG  
--> 513 **ATTTCATCAC** 6360 *Dani*  
514  
515 AGTAAACAAAC AATCTCACCT CTGACCAGGC TGTCCAGGTA TGCAAAGATA  
--> 516 **ATAAGTGGTG** 6420  
517  
518 CAACCCCTTA GTTATTCCGGT TTACAGACGC CGGGAGACGG GTTACTTCCT  
--> 519 **GGACCACAGG** 6480  
520  
521 ACATTACTGG GGCTTACGTT TGTATGTCTC CGGACAAGAT CCAGGGCTTA  
--> 522 **CATTGGGAT** 6540  
523  
524 CCGACTCAGA TACCAAAATC TAGGACCCCG CGTCCCAATA GGGCCAAACC  
--> 525 **CCGTTCTGCC** 6600  
526  
527 AGACCAACAG CCACTCTCCA AGCCCAAACC TGTAAAGTCG CCTTCAGTCA  
--> 528 **CCAAACCACC** 6660  
529  
530 CAGTGGGACT CCTCTCTCCC CTACCCAATC TCCACCGGCG GGAACGGAAA  
--> 531 **ATAGGCTGCT** 6720  
532  
533 AAACCTAGTA GACGGAGCCT ACCAAGCCCT CAACCTCACC AGTCCTGACA  
--> 534 **AAACCCAAGA** 6780  
535  
536 GTGCTGGTTG TGTCTAGTAG CGGGACCCCG CTACTACGAA GGGGTTGCCG  
--> 537 **TCCTGGGTAC** 6840  
538  
539 CTACTCCAAC CATACCTCTG CTCCAGCCAA CTGCTCCGTG GCCTCCCAAC  
--> 540 **ACAAGTTGAC** 6900  
541  
542 CCTGTCCGAA GTGACCGGAC AGGGACTCTG CATAGGAGCA GTTCCCAAAA  
--> 543 **CACATCAGGC** 6960  
544  
545 CCTATGTAAT ACCACCCAGA CAAGCAGTCG AGGGTCCTAT TATCTAGTTG

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039DATE: 02/10/98  
TIME: 11:37:04

INPUT SET: S23358.raw

--> 546 CCCCTACAGG 7020  
547  
548 TACCATGTGG GCTTGTAGTA CCGGGCTTAC TCCATGCATC TCCACCACCA  
--> 549 TACTAACCT 7080  
550  
551 TACCACTGAT TATTGTGTTTC TTGTCGAACCT CTGGCCAAGA GTCACCTATC  
--> 552 ATTCCCCAG 7140  
553  
554 CTATGTTTAC GCCCTGTTTG AGAGATCCAA CCGACACAAA AGAGAACCGG  
--> 555 TGTGTTAAC 7200  
556  
557 CCTGCCCTA TTATTGGGTG GACTAACCAT GGGGGAATT GCCGCTGGAA  
--> 558 TAGAACAGG 7260  
559  
560 GACTACTGCT CTAATGGCCA CTCAGCAATT CCAGCAGCTC CAAGCCGCAG  
--> 561 TACAGGATGA 7320  
562  
563 TCTCAGGGAG GTTGAAAAAT CAATCTCTAA CCTAGAAAAG TCTCTCACTT  
--> 564 CCCTGTCTGA 7380  
565  
566 AGTTGCTCTA CAGAATCGAA GGGCCTAGA CTTGTTATTT CTAAAAGAAG  
--> 567 GAGGGCTGTG 7440  
568  
569 TGCTGCTCTA AAAGAAGAAT GTTGCTTCTA TGCGGACCAC ACAGGACTAG  
--> 570 TGAGAGACAG 7500  
571  
572 CATGCCAAA TTGAGAGAGA GGCTTAATCA GAGACAGAAA CTGTTTGAGT  
--> 573 CAACTCAAGG 7560  
574  
575 ATGGTTTGAG GGACTGTTTA ACAGATCCCC TTGGTTTACC ACCTTGATAT  
--> 576 CTACCATTAT 7620  
577  
578 GGGACCCCTC ATTGTACTCC TAATGATTT GCTCTCGGA CCCTGCATTC  
--> 579 TTAATCGATT 7680  
580  
581 AGTCCAATTT GTTAAAGACA GGATATCAGT GGTCCAGGCT CTAGTTTGA  
--> 582 CTCACAATA 7740  
583  
584 TCACCAGCTG AAGCCTATAG AGTACGAGCC ATAGATAAAA TAAAAGATTT  
--> 585 TATTAGTCT 7800  
586  
587 CCAGAAAAAG GGGGAATGA AAGACCCAC CTGTAGGTTT GGCAAGCTAG  
--> 588 CTTAAGTAAC 7860  
589  
590 GCCATTTTGC AAGGCATGGA AAAATACATA ACTGAGAATA GAGAAGTTCA  
--> 591 GATCAAGGTC 7920  
592  
593 AGGAACAGAT GGAACAGCTG AATATGGGCC AACAGGATA TCTGTGGTAA  
--> 594 CGAGTTCTG 7980  
595  
596 CCCGGCTCA GGGCCAAGAA CAGATGGAAC AGCTGAATAT GGGCCAAACA  
--> 597 GGATATCTGT 8040  
598

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/001,039**

DATE: 02/10/98  
 TIME: 11:37:07

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**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039**

DATE: 02/10/98  
TIME: 11:37:09

*1dne*  
**INPUT SET: S23358.raw**

911	CTAAAGATAT	TTTAGAGAAG	AATTAACCTT	TTGCTTCCTCC	AGTTGAACAT
---> 912	<b>TTGTAGCAAT</b>	180			
913	AAGTCATGCA	AATAGAGCTC	TCCACCTGCT	TCTTTCTGTG	CCTTTGCAG
---> 914	<b>TTCTGCTTTA</b>	240			
915	GTGCCACCAG	AAGATACTAC	CTGGGTGCAG	TGGAACTGTC	ATGGGACTAT
---> 916	<b>ATGCCAAAGTG</b>	300			
917	ATCTCGGTGA	GCTGCCTGTG	GACCGAAGAT	TTCCCTCCTAG	AGTGCCAAAA
---> 918	<b>TCTTTTCCAT</b>	360			
919	TCAACACCTC	AGTCGTGTAC	AAAAAGACTC	TGTTTGTAGA	ATTCAACGGAT
---> 920	<b>CACCTTTCA</b>	420			
921	ACATCGCTAA	GCCAAGGCCA	CCCTGGATGG	GTCTGCTAGG	TCCTTACCATC
---> 922	<b>CAGGCTGAGG</b>	480			
923	TTTATGATAC	AGTGGTCATT	ACACTTAAGA	ACATGGCTTC	CCATCCTGTC
---> 924	<b>ACTCTTCATG</b>	540			
925	CTGTTGGTGT	ATCCTACTGG	AAAGCTTCTG	AGGGAGCTGA	ATATGATGAT
---> 926	<b>CAGACCAGTC</b>	600			
927	AAAGGGAGAA	AGAAGATGAT	AAAGTCTTCC	CTGGTGGAAAG	CCATACATAT
---> 928	<b>GTCTGGCAGG</b>	660			
929	TCCTGAAAGA	GAATGGTCCA	ATGGCCTCTG	ACCCACTGTG	CCTTACCTAC
---> 930	<b>TCATATCTT</b>	720			
931	CTCATGTGGA	CCTGGTAAAA	GACTTGAATT	CAGGCCTCAT	TGGAGCCCTA
---> 932	<b>CTAGTATGTA</b>	780			
933	GAGAAGGGAG	TCTGGCCAAG	AAAAAGACAC	AGACCTTGCA	CAAATTTATA
---> 934	<b>CTACTTTTC</b>	840			
935	CTGTATTGTA	TGAAGGGAAA	AGTTGGCACT	CAGAAACAAA	GAACTCCTTG
---> 936	<b>ATGCAGGATA</b>	900			
937	GGGATGCTGC	ATCTGCTCGG	GCCTGGCCTA	AAATGCACAC	AGTCAATGGT
---> 938	<b>TATGTAAACA</b>	960			
939	GGTCCTCTGCC	AGGTCTGATT	GGATGCCACA	GGAAATCAGT	CTATTGGCAT
---> 940	<b>GTGATTGGAA</b>	1020			
941	TGGGCACCAC	TCCTGAAGTG	CACTCAATAT	TCCTCGAAGG	TCACACATTT
---> 942	<b>CTTGTGAGGA</b>	1080			
943	ACCATCGCCA	GGCGTCCTTG	GAAATCTCGC	CAATAACTTT	CCTTACTGCT
---> 944	<b>CAAACACTCT</b>	1140			
945	TGATGGACCT	TGGACAGTTT	CTACTGTTT	GTCATATCTC	TTCCCACCAA
---> 946	<b>CATGATGGCA</b>	1200			
947	TGGAAGCTTA	TGTCAAAGTA	GACAGCTGTC	CAGAGGAACC	CCAACTACGA
---> 948	<b>ATGAAAAATA</b>	1260			
949	ATGAAGAACG	GGAAGACTAT	GATGATGATC	TTACTGATTC	TGAAATGGAT
---> 950	<b>GTGGTCAGGT</b>	1320			
951	TTGATGATGA	CAACTCTCCT	TCCTTTATCC	AAATTCGCTC	AGTTGCCAAG
---> 952	<b>AACCATCCTA</b>	1380			
953	AAACCTGGGT	ACATTACATT	GCTGCTGAAG	AGGAGGACTG	GGACTATGCT
---> 954	<b>CCCTTAGTCC</b>	1440			
955	TCGCCCGGA	TGACAGAAAGT	TATAAAAGTC	AATATTGAA	CAATGGCCCT
---> 956	<b>CAGCGGATTG</b>	1500			
957	GTAGGAAGTA	CAAAAAAGTC	CGATTATGG	CATACACAGA	TGAAACCTTT
---> 958	<b>AAGACTCGTC</b>	1560			
959	AAGCTATTCA	GCATGAATCA	GGAATCTTGG	GACCTTACT	TTATGGGGAA
---> 960	<b>GTTGGAGACA</b>	1620			
961	CACTGTTGAT	TATATTAAAG	AATCAAGCAA	GCAGACCATA	TAACATCTAC
---> 962	<b>CCTCACGGAA</b>	1680			
963	TCACTGATGT	CCGTCCCTTG	TATTCAAGGA	GATTACCAAA	AGGTGTAAAA

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039**

DATE: 02/10/98  
TIME: 11:37:12

*Dan*  
**INPUT SET: S23358.raw**

--> 964	<b>CATTTGAAGG</b>	<b>1740</b>	
965	ATTTTCCAAT	TCTGCCAGGA GAAATATTCA AATATAAATG GACAGTGACT	
--> 966	<b>GTAGAAGATG</b>	<b>1800</b>	
967	GGCCAACCTAA	ATCAGATCCT CGGTGCCTGA CCCGCTATTA CTCTAGTTTC	
--> 968	<b>GTTAATATGG</b>	<b>1860</b>	
969	AGAGAGATCT	AGCTTCAGGA CTCATTGCC CTCTCCTCAT CTGCTACAAA	
--> 970	<b>GAATCTGTAG</b>	<b>1920</b>	
971	ATCAAAGAGG	AAACCGAGATA ATGTCAGACA AGAGGAATGT CATCCTGTTT	
--> 972	<b>TCTGTATTTG</b>	<b>1980</b>	
973	ATGAGAACCG	AAGCTGGTAC CTCACAGAGA ATATACAACG CTTTCTCCCC	
--> 974	<b>AATCCAGCTG</b>	<b>2040</b>	
975	GAGTGCAGCT	TGAGGATCCA GAGTTCCAAG CCTCCAACAT CATGCACAGC	
--> 976	<b>ATCAATGGCT</b>	<b>2100</b>	
977	ATGTTTTGTA	TAGTTTGCAG TTGTCAGTTT GTTTGCATGA GGTGGCATAAC	
--> 978	<b>TGGTACATTC</b>	<b>2160</b>	
979	TAAGCATTGG	AGCACAGACT GACTTCCTTT CTGTCTTCTT CTCTGGATAT	
--> 980	<b>ACCTTCAAAC</b>	<b>2220</b>	
981	ACAAAATGGT	CTATGAAGAC ACACTCACCC TATTCCCATT CTCAGGAGAA	
--> 982	<b>ACTGTCTTC</b>	<b>2280</b>	
983	TGTCGATGGA	AAACCCAGGT CTATGGATT TGGGGTGCCA CAACTCAGAC	
--> 984	<b>TTTCGGAACA</b>	<b>2340</b>	
985	GAGGCATGAC	CGCCTTACTG AAGGTTTCTA GTTGTGACAA GAACACTGGT	
--> 986	<b>GATTATTACG</b>	<b>2400</b>	
987	AGGACAGTTA	TGAAGATATT TCAGCATACT TGCTGAGTAA AAACAATGCC	
--> 988	<b>ATTGAACCAA</b>	<b>2460</b>	
989	GAAGCTTCTC	CCAGAATTCA AGACACCCTA GCACTAGGCA AAAGCAATT	
--> 990	<b>AATGCCACCA</b>	<b>2520</b>	
991	CAATTCCAGA	AAATGACATA GAGAAGACTG ACCCTTGGTT TGCACACAGA	
--> 992	<b>ACACCTATGC</b>	<b>2580</b>	
993	CTAAAATACA	AAATGTCTCC TCTAGTGATT TGTTGATGCT CTTGCGACAG	
--> 994	<b>AGTCCTACTC</b>	<b>2640</b>	
995	CACATGGGCT	ATCCTTATCT GATCTCCAAG AAGCAAATA TGAGACTTTT	
--> 996	<b>TCTGATGATC</b>	<b>2700</b>	
997	CATCACCTGG	AGCAATAGAC AGTAATAACA GCCTGCTGA AATGACACAC	
--> 998	<b>TTCAGGCCAC</b>	<b>2760</b>	
999	AGCTCCATCA	CAGTGGGGAC ATGGTATT TA CCCCTGAGTC AGGCCTCCAA	
--> 1000	<b>TTAAGATTAA</b>	<b>2820</b>	
1001	ATGAGAAACT	GGGGACAACACT GCAGCAACAG AGTTGAAGAA ACTTGATTT	
--> 1002	<b>AAAGTTCTA</b>	<b>2880</b>	
1003	GTACATCAA	TAATCTGATT TCAACAAATTC CATCAGACAA TTTGGCAGCA	
--> 1004	<b>GGTACTGATA</b>	<b>2940</b>	
1005	ATACAAGTTC	CTTAGGACCC CCAAGTATGC CAGTCATTA TGATAGTC	
--> 1006	<b>TTAGATACCA</b>	<b>3000</b>	
1007	CTCTATTTGG	CAAAAAGTCA TCTCCCTTA CTGAGTCTGG TGGACCTCTG	
--> 1008	<b>AGCTTGAGTC</b>	<b>3060</b>	
1009	AAGAAAATAA	TGATTCAAAG TTGTTAGAAT CAGGTTTAAT GAATAGCCAA	
--> 1010	<b>GAAAGTTCAT</b>	<b>3120</b>	
1011	GGGGAAAAAA	TGTATCGTCA ACAGAGAGTG GTAGGTTATT TAAAGGGAAA	
--> 1012	<b>AGAGCTCATG</b>	<b>3180</b>	
1013	GACCTGCTTT	GTTGACTAAA GATAATGCCT TATTCAAAGT TAGCATCTCT	
--> 1014	<b>TTGTTAAAGA</b>	<b>3240</b>	
1015	CAAACAAAAC	TTCCAATAAT TCAGCAACTA ATAGAAAGAC TCACATTGAT	
--> 1016	<b>GGCCCATCAT</b>	<b>3300</b>	

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039**

DATE: 02/10/98  
TIME: 11:37:15

*Dale*  
**INPUT SET: S23358.raw**

1017	TATTAATTGA	GAATAGTCCA	TCAGTCTGGC	AAAATATATT	AGAAAGTGAC
---> 1018	<b>ACTGAGTTA</b>	<b>3360</b>			
1019	AAAAAGTGAC	ACCTTGTGATT	CATGACAGAA	TGCTTATGGA	CAAAAATGCT
---> 1020	<b>ACAGCTTGA</b>	<b>3420</b>			
1021	GGCTAAATCA	TATGTCAAAT	AAAACTACTT	CATCAAAAAA	CATGGAAATG
---> 1022	<b>GTCCAACAGA</b>	<b>3480</b>			
1023	AAAAAGAGGG	CCCCATTCCA	CCAGATGCAC	AAAATCCAGA	TATGTCGTT
---> 1024	<b>TTTAAGATGC</b>	<b>3540</b>			
1025	TATTCCTGCC	AGAATCAGCA	AGGTGGATAC	AAAGGACTCA	TGGAAAGAAC
---> 1026	<b>TCTCTGAACT</b>	<b>3600</b>			
1027	CTGGGCAAGG	CCCCAGTCCA	AAGCAATTAG	TATCCTTAGG	ACCAGAAAAA
---> 1028	<b>TCTGTGGAAG</b>	<b>3660</b>			
1029	GTCAGAATT	CTTGTCTGAG	AAAAACAAAG	TGGTAGTAGG	AAAGGGTGAA
---> 1030	<b>TTTACAAAGG</b>	<b>3720</b>			
1031	ACGTAGGACT	CAAAGAGATG	GTTCCTCAA	GCAGCAGAAA	CCTATTTCTT
---> 1032	<b>ACTAACTTGG</b>	<b>3780</b>			
1033	ATAATTTACA	TGAAAATAAT	ACACACAATC	AAGAAAAAAA	AATTCAGGAA
---> 1034	<b>GAAATAGAAA</b>	<b>3840</b>			
1035	AGAAGGAAAC	ATTAATCCAA	GAGAATGTAG	TTTTGCCTCA	GATACATACA
---> 1036	<b>GTGACTGGCA</b>	<b>3900</b>			
1037	CTAAGAATT	CATGAAGAAC	CTTTCTTAC	TGAGCACTAG	GCAAAATGTA
---> 1038	<b>GAAGGTTCAT</b>	<b>3960</b>			
1039	ATGACGGGGC	ATATGCTCCA	GTACTTCAAG	ATTTTAGGTC	ATTAATGAT
---> 1040	<b>TCAACAAATA</b>	<b>4020</b>			
1041	GAACAAAGAA	ACACACAGCT	CATTCTCAA	AAAAAGGGGA	GGAAGAAAAC
---> 1042	<b>TTGGAAGGCT</b>	<b>4080</b>			
1043	TGGGAAATCA	AACCAAGCAA	ATTGTAGAGA	AATATGCATG	CACCACAAGG
---> 1044	<b>ATATCTCCTA</b>	<b>4140</b>			
1045	ATACAAGCCA	GCAGAATT	GTCAAGCAAC	GTAGTAAGAG	AGCTTGAAA
---> 1046	<b>CAATTTCAGAC</b>	<b>4200</b>			
1047	TCCCACCTAGA	AGAAACAGAA	CTTGAAAAAA	GGATAATTGT	GGATGACACC
---> 1048	<b>TCAACCCAGT</b>	<b>4260</b>			
1049	GGTCACAAA	CATGAAACAT	TTGACCCCCGA	GCACCCCTCAC	ACAGATAGAC
---> 1050	<b>TACAATGAGA</b>	<b>4320</b>			
1051	AGGAGAAAGG	GGCCATTACT	CAGTCTCCCT	TATCAGATTG	CCTTACGAGG
---> 1052	<b>AGTCATAGCA</b>	<b>4380</b>			
1053	TCCCTCAAGC	AAATAGATCT	CCATTACCCA	TTGCAAAGGT	ATCATCATT
---> 1054	<b>CCATCTATTA</b>	<b>4440</b>			
1055	GACCTATATA	TCTGACCAGG	GTCCTATTCC	AAGACAACTC	TTCTCATCTT
---> 1056	<b>CCAGCAGCAT</b>	<b>4500</b>			
1057	CTTATAGAAA	GAAAGATTCT	GGGGTCCAAG	AAAGCAGTCA	TTTCTTACAA
---> 1058	<b>GGAGCCAAA</b>	<b>4560</b>			
1059	AAAATAACCT	TTCTTAGGCC	ATTCTAACCT	TGGAGATGAC	TGGTGATCAA
---> 1060	<b>AGAGAGGTTG</b>	<b>4620</b>			
1061	GCTCCCTGGG	GACAAGTGCC	ACAAATTCA	TCACATACAA	GAAAGTTGAG
---> 1062	<b>AACACTGTTC</b>	<b>4680</b>			
1063	TCCCGAAACC	AGACTTGCCC	AAAACATCTG	GCAAAGTTGA	ATTGCTTCCA
---> 1064	<b>AAAGTTCACA</b>	<b>4740</b>			
1065	TTTATCAGAA	GGACCTATT	CCTACGGAAA	CTAGCAATGG	GTCTCCTGGC
---> 1066	<b>CATCTGGATC</b>	<b>4800</b>			
1067	TCGTGGAAGG	GAGCCTT	CAGGAAACAG	AGGGAGCGAT	TAAGTGGAAAT
---> 1068	<b>GAAGCAACAA</b>	<b>4860</b>			
1069	GACCTGGAAA	AGTTCCCTT	CTGAGAGTAG	CAACAGAAAG	CTCTGCAAAG

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039DATE: 02/10/98  
TIME: 11:37:17

INPUT SET: S23358.raw

--> 1070 ACTCCCTCCA 4920  
1071 AGCTATTGGA TCCTCTTGCT TGGGATAACC ACTATGGTAC TCAGATACCA  
--> 1072 AAAGAAGAGT 4980  
1073 GGAAATCCC A AGAGAAGTC CA CAGAAAAAA CAGTTTAA GAAAAGGAT  
--> 1074 ACCATTTGT 5040  
1075 CCCTGAACGC TTGTGAAAGC AATCATGCAA TAGCAGCAAT AAATGAGGGA  
--> 1076 CAAAATAAGC 5100  
1077 CCGAAATAGA AGTCACCTGG GCAAAGCAAG GTAGGACTGA AAGGCTGTGC  
--> 1078 TCTCAAAACC 5160  
1079 CACCAAGTCTT GAAACGCCAT CAACGGAAA TAACTCGTAC TACTCTTCAG  
--> 1080 TCAGATCAAG 5220  
1081 AGGAAATTGA CTATGATGAT ACCATATCAG TTGAAATGAA GAAGGAAGAT  
--> 1082 TTTGACATTT 5280  
1083 ATGATGAGGA TGAAAATCAG AGCCCCCGCA GCTTCAAAA GAAAACACGA  
--> 1084 CACTATTTA 5340  
1085 TTGCTGCAGT GGAGAGGCTC TGGGATTATG GGATGAGTAG CTCCCCACAT  
--> 1086 GTTCTAACAA 5400  
1087 ACAGGGCTCA GAGTGGCAGT GTCCCTCAGT TCAAGAAAGT TGTTTCCAG  
--> 1088 GAATTTACTG 5460  
1089 ATGGCTCCTT TACTCAGCCC TTATACCGTG GAGAACTAAA TGAACATTTG  
--> 1090 GGACTCCTGG 5520  
1091 GGCCATATAT AAGAGCAGAA GTTGAAGATA ATATCATGGT AACCTTCAGA  
--> 1092 AATCAGGCCT 5580  
1093 CTCGTCCCTA TTCCTTCTAT TCTAGCCTTA TTTCTTATGA GGAAGATCAG  
--> 1094 AGGCAAGGAG 5640  
1095 CAGAACCTAG AAAAACCTTT GTCAAGCCTA ATGAAACCAA AACTTACTTT  
--> 1096 TGGAAAGTGC 5700  
1097 AACATCATAT GGCAACCAACT AAAGATGAGT TTGACTGCAA AGCCTGGGCT  
--> 1098 TATTCTCTG 5760  
1099 ATGTTGACCT GGAAAAAGAT GTGCACTCAG GCCTGATTGG ACCCCTTCTG  
--> 1100 GTCTGCCACA 5820  
1101 CTAACACACT GAACCCCTGCT CATGGGAGAC AAGTGACAGT ACAGGAATT  
--> 1102 GCTCTGTTTT 5880  
1103 TCACCACCTT TGATGAGACC AAAAGCTGGT ACTTCACTGA AAATATGGAA  
--> 1104 AGAAACTGCA 5940  
1105 GGGCTCCCTG CAATATCCAG ATGGAAGATC CCACTTTAA AGAGAATTAT  
--> 1106 CGCTTCCATG 6000  
1107 CAATCAATGG CTACATAATG GATACACTAC CTGGCTTAGT AATGGCTCAG  
--> 1108 GATCAAAGGA 6060  
1109 TTGATGGTA TCTGCTCAGC ATGGGCAGCA ATGAAAACAT CCATTCTATT  
--> 1110 CATTTCAGTG 6120  
1111 GACATGTGTT CACTGTACGA AAAAGAGGG AGTATAAAAT GGCACACTGTAC  
--> 1112 AATCTCTATC 6180  
1113 CAGGTGTTTG TGAGACAGTG GAAATGTTAC CATCCAAAGC TGGAATTGG  
--> 1114 CGGGTGGAAAT 6240  
1115 GCCTTATTGG CGAGCATCTA CATGCTGGGA TGAGCACACT TTTCTGGT  
--> 1116 TACAGCAATA 6300  
1117 AGTGTCAAGAC TCCCCCTGGGA ATGGCTTCTG GACACATTAG AGATTTTCAG  
--> 1118 ATTACAGCTT 6360  
1119 CAGGACAATA TGGACAGTGG GCCCCAAAGC TGGCCAGACT TCATTATTCC  
--> 1120 GGATCAATCA 6420  
1121 ATGCCTGGAG CACCAAGGAG CCCTTTCTT GGATCAAGGT GGATCTGTTG  
--> 1122 GCACCAATGA 6480

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/001,039**

DATE: 02/10/98  
TIME: 11:37:20

*Marie*  
**INPUT SET: S23358.raw**

1123	TTATTCACGG	CATCAAGACC	CAGGGTGCC	GTCAGAAGTT	CTCCAGCCTC
---> 1124	TACATCTCTC	6540			
1125	AGTTTATCAT	CATGTATACT	CTTGATGGGA	AGAAGTGGCA	GACTTATCGA
---> 1126	CGAAATTCCA	6600			
1127	CTGGAACCTT	AATGGTCTTC	TTTGGCAATG	TGGATTCATC	TGGGATAAAA
---> 1128	CACAATATTT	6660			
1129	TTAACCCCTCC	AATTATTGCT	CGATACATCC	GTTCGCACCC	AACTCATTAT
---> 1130	AGCATTGCGA	6720			
1131	GCACCTCTCG	CATGGAGTTG	ATGGGCTGTG	ATTTAAATAG	TTGCAGCATG
---> 1132	CCATTGGGAA	6780			
1133	TGGAGAGTAA	AGCAATATCA	GATGCACAGA	TTACTGCTTC	ATCCTACTTT
---> 1134	ACCAATATGT	6840			
1135	TTGCCACCTG	GTCTCCTTCA	AAAGCTCGAC	TTCACCTCCA	AGGGAGGAGT
---> 1136	AATGCCTGGA	6900			
1137	GACCTCAGGT	GAATAATCCA	AAACAGTGGC	TGCAAGTGGA	CTTCCAGAAG
---> 1138	ACAATGAAAG	6960			
1139	TCACAGGAGT	AACTACTCAG	GGAGTAAAAT	CTCTGCTTAC	CAGCATGTAT
---> 1140	GTGAAGGAGT	7020			
1141	TCCTCATCTC	CAGCAGTCAA	GATGGCCATC	AGTGGACTCT	CTTTTTTCAG
---> 1142	AATGGCAAAG	7080			
1143	TAAAGGTTTT	TCAGGGAAAT	CAAGACTCCT	TCACACCTGT	GGTGAACCT
---> 1144	CTAGACCCAC	7140			
1145	CGTTACTGAC	TCGCTACCTT	CGAATTCAAC	CCCAGAGTTG	GGTGCACCAG
---> 1146	ATTGCCCTGA	7200			
1147	GGATGGAGGT	TCTGGGCTGC	GAGGCACAGG	ACCTCTACTG	AGGGTGGCCA
---> 1148	CTGCAGCACC	7260			
1149	TGCCACTGCC	GTCACCTCTC	CCTCCTCAGC	TCCAGGGCAG	TGTCCCTCCC
---> 1150	TGGCTTGCCT	7320			
1151	TCTACCTTTG	TGCTAAATCC	TAGCAGACAC	TGCCTGAAG	CCTCCTGAAT
---> 1152	TAACATATCAT	7380			
1153	CAGTCCTGCA	TTTCTTTGGT	GGGGGCCAG	GAGGGTGCAT	CCAATTAAAC
---> 1154	TTAACTCTTA	7440			
1155	CCTATTTTCT	GCAGCTGCTC	CCAGATTACT	CCTTCCTTCC	AATATAACTA
---> 1156	GGCAAAAGA	7500			
1157	AGTGAGGAGA	AACCTGCATG	AAAGCATTCT	TCCCTGAAAA	GTTAGGCCTC
---> 1158	TCAGAGTCAC	7560			
1159	CACTCCCTCT	GTTGTAGAAA	AACTATGTGA	TGAAACTTTG	AAAAAGATAT
---> 1160	TTATGATGTT	7620			
1161	AACATTTCA	GTAAAGCCTC	ATACGTTAA	AATAAAACTC	TCAGTTGTTT
---> 1162	ATTATCCTGA	7680			
1163	TCAAGCATGG	AAACAAAGCAT	GTTCAGGAT	CAGATCAATA	CAATCTTGGA
---> 1164	GTCAAAAGGC	7740			
1165	AAATCATTG	GACAATCTGC	AAAATGGAGA	GAATACAATA	ACTACTACAG
---> 1166	TAAAGTCTGT	7800			
1167	TTCTGCTTCC	TTACACATAG	ATATAATTAT	GTTATTTAGT	CATTATGAGG
---> 1168	GGCACATTCT	7860			
1169	TATCTCCAAA	ACTAGCATT	TTAAACTGAG	AATTATAGAT	GGGGTTCAAG
---> 1170	AATCCCTAAG	7920			
1171	TCCCCCTGAAA	TTATATAAGG	CATTCTGTAT	AAATGCAAAT	GTGCATTTTT
---> 1172	CTGACGAGTG	7980			
1173	TCCATAGATA	TAAAGCCATT	TGGTCTTAAT	TCTGACCAAT	AAAAAAATAA
---> 1174	GTCAGGAGGA	8040			
1175	TGCAATTGTT	GAAAGCTTTG	AAATAAAATA	ACAATGTCTT	CTTGAAATTT

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/001,039**

DATE: 02/10/98  
 TIME: 11:37:23

INPUT SET: S23358.raw

--> **1176** GTGATGGCCA 8100  
 1177 AGAAAGAAAA TGATGATGAC ATTAGGCTTC TAAAGGACAT ACATTTAATA  
--> **1178** TTTCTGTGGA 8160  
 1179 AATATGAGGA AAATCCATGG TTATCTGAGA TAGGAGATAC AAACCTTGTA  
--> **1180** ATTCTAATAA 8220  
 1181 TGCACTCAGT TTACTCTCTC CCTCTACTAA TTTCCTGCTG AAAATAACAC  
--> **1182** AACAAAATG 8280  
 1183 TAACAGGGGA AATTATATAC CGTGACTGAA AACTAGAGTC CTACTTACAT  
--> **1184** AGTTGAAATA 8340  
 1185 TCAAGGAGGT CAGAAGAAAA TTGGACTGGT GAAAACAGAA AAAACACTCC  
--> **1186** AGTCTGCCAT 8400  
 1187 ATCACCAACAC AATAGGATCC CCCTTCTTGC CCTCCACCCC CATAAGATTG  
--> **1188** TGAAGGGTTT 8460  
 1189 ACTGCTCCTT CCATCTGCCCT GACCCCTTCA CTATGACTAC ACAGAACATCTC  
--> **1190** CTGATAGTAA 8520  
 1191 AGGGGGCTGG AGGCAAGGAT AACTTATAGA GCAGTTGGAG GAAGCATCCA  
--> **1192** AAGATTGCAA 8580  
 1193 CCCAGGGCAA ATGGAAAACA GGAGATCCTA ATATGAAAGA AAAATGGATC  
--> **1194** CCAATCTGAG 8640  
 1195 AAAAGGCAAA AGAATGGCTA CTTTTTCTA TGCTGGAGTA TTTTCTAATA  
--> **1196** ATCCTGCTTG 8700  
 1197 ACCCTTATCT GACCTCTTTG GAAACTATAA CATAGCTGTC ACAGTATAAGT  
--> **1198** CACAATCCAC 8760  
 1199 AAATGATGCA GGTGCAAATG GTTATAGCC CTGTGAAGTT CTTAAAGTTT  
--> **1200** AGAGGCTAAC 8820  
 1201 TTACAGAAAT GAATAAGTTG TTTTGTTTA TAGCCCGTA GAGGAGTTAA  
--> **1202** CCCCCAAAGGT 8880  
 1203 GATATGGTTT TATTCCTGT TATGTTAAC TTAATAATCT TATTTGGCA  
--> **1204** TTCTTTCCCC 8940  
 1205 ATTGACTATA TACATCTCTA TTTCTCAAAT GTTCATGGAA CTAGCTCTT  
--> **1206** TATTTTCCTG 9000  
 1207 CTGGTTCTT CAGTAATGAG TTAAATAAAA CATTGACACA TACAAAAAAA  
--> **1208** AAAAAAAAAA 9060  
 1209 AAAAAAAAAA AAAAAAAAAA 9080  
 1210

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1662 (2) INFORMATION FOR SEQ ID NO:46:  
 1663 (i) SEQUENCE CHARACTERISTICS:  
--> **1664** (A) LENGTH: 4832 base pairs  
 1665 (B) TYPE: nucleic acid  
 1666 (C) STRANDEDNESS: single  
 1667 (D) TOPOLOGY: linear  
 1668 (ii) MOLECULE TYPE: DNA (genomic)  
 1669 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:  
 1670 CTCGAGCTAA AGATATTTA GAGAAGAATT AACCTTTGC TTCTCCAGTT  
--> **1671** GAACATTGT 60  
 1672 AGCAATAAGT CATGCAAATA GAGCTCTCCA CCTGCTTCTT TCTGTGCCTT  
--> **1673** TTGCGATTCT 120  
 1674 GCTTAGTGC CACCAGAAGA TACTACCTGG GTGCAGTGG ACTGTCATGG  
--> **1675** GACTATATGC 180  
 1676 AAAGTGATCT CGGTGAGCTG CCTGTGGACG CAAGATTCC TCCTAGAGTG  
--> **1677** CCAAAATCTT 240  
 1678 TTCCATTCAA CACCTCAGTC GTGTACAAAA AGACTCTGTT TGTAGAATTG

*Last sequence in file*

*Part*

**RAW SEQUENCE LISTING  
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DATE: 02/10/98  
TIME: 11:37:25

**INPUT SET: S23358.raw**

--->	<b>1679</b>	<b>ACGGATCACC</b>	<b>300</b>
	1680	TTTCAACAT	CGCTAAGCCA AGGCCACCC CGATGGGTCT GCTAGGTCC
--->	<b>1681</b>	<b>ACCATCCAGG</b>	<b>360</b>
	1682	CTGAGGTTA	TGATACAGTG GTCATTACAC TTAAGAACAT GGCTTCCC
--->	<b>1683</b>	<b>CCTGTCAGTC</b>	<b>420</b>
	1684	TTCATGCTGT	TGGTGTATCC TACTGGAAAG CTTCTGAGGG AGCTGAATAT
--->	<b>1685</b>	<b>GATGATCAGA</b>	<b>480</b>
	1686	CCAGTCAAAG	GGAGAAAGAA GATGATAAAAG TCTTCCCTGG TGGAAGCC
--->	<b>1687</b>	<b>ACATATGTCT</b>	<b>540</b>
	1688	GGCAGGTCC	GAAAGAGAAT GGTCCAATGG CCTCTGACCC ACTGTGCCT
--->	<b>1689</b>	<b>ACCTACTCAT</b>	<b>600</b>
	1690	ATCTTCTCA	TGTGGACCTG GTAAAAGACT TGAATTCAAGG CCTCATTGGA
--->	<b>1691</b>	<b>GCCCTACTAG</b>	<b>660</b>
	1692	TATGTAGAGA	AGGGAGTCTG GCCAAGGAA AGACACAGAC CTTGCACAAA
--->	<b>1693</b>	<b>TTTATACTAC</b>	<b>720</b>
	1694	TTTTGCTGT	ATTTGATGAA GGGAAAAGTT GGCACTCAGA AACAAAGAAC
--->	<b>1695</b>	<b>TCCTTGATGC</b>	<b>780</b>
	1696	AGGATAGGGA	TGCTGCATCT GCTCGGGC CTGCCTAAAT GCACACAGTC
--->	<b>1697</b>	<b>AATGGTTATG</b>	<b>840</b>
	1698	TAAACAGGTC	TCTGCCAGGT CTGATTGGAT GCCACAGGAA ATCAGTCTAT
--->	<b>1699</b>	<b>TGCCATGTGA</b>	<b>900</b>
	1700	TTGGAATGGG	CAACACTCCT GAAGTGCACT CAATATTCC CGAAGGTCAC
--->	<b>1701</b>	<b>ACATTTCTTG</b>	<b>960</b>
	1702	TGAGGAACCA	TCGCCAGGCG TCCTTGAA TCTGCCAAT AACCTTCCTT
--->	<b>1703</b>	<b>ACTGCTAAA</b>	<b>1020</b>
	1704	CACTCTTGAT	GGACCTTGGA CAGTTCTAC TGTTTGTCA TATCTCTTCC
--->	<b>1705</b>	<b>CACCAACATG</b>	<b>1080</b>
	1706	ATGGCATGGA	AGCTTATGTC AAAGTAGACA GCTGTCCAGA GGAACCCCAA
--->	<b>1707</b>	<b>CTACGAATGA</b>	<b>1140</b>
	1708	AAAATAATGA	AGAAGCGGAA GACTATGATG ATGATCTTAC TGATTCTGAA
--->	<b>1709</b>	<b>ATGGATGTGG</b>	<b>1200</b>
	1710	TCAGGTTGAA	TGATGACAAC TCTCCTTCCT TTATCCAAT TCGCTCAGTT
--->	<b>1711</b>	<b>GCCAAAGAAGC</b>	<b>1260</b>
	1712	ATCCCTAAAC	TTGGGTACAT TACATTGCTG CTGAAGAGGA GGACTGGGAC
--->	<b>1713</b>	<b>TATGCTCCCT</b>	<b>1320</b>
	1714	TAGTCCTCGC	CCCCGATGAC AGAAGTTATA AAAGTCAATA TTTGAACAAT
--->	<b>1715</b>	<b>GGCCCTCAGC</b>	<b>1380</b>
	1716	GGATTGGTAG	GAAGTACAAA AAAGTCCGAT TTATGGCATA CACAGATGAA
--->	<b>1717</b>	<b>ACCTTTAAGA</b>	<b>1440</b>
	1718	CTCGTGAAGC	TATTCAGCAT GAATCAGGAA TCTTGGGACC TTTACTTTAT
--->	<b>1719</b>	<b>GGGGAAGTTG</b>	<b>1500</b>
	1720	GAGACACACT	GTTGATTATA TTTAAGAAC TAAAGCAAGCAG ACCATATAAAC
--->	<b>1721</b>	<b>ATCTACCCCTC</b>	<b>1560</b>
	1722	ACGGAATCAC	TGATGTCCGT CCTTTGTATT CAAGGAGATT ACCAAAAGGT
--->	<b>1723</b>	<b>GTAAAACATT</b>	<b>1620</b>
	1724	TGAAGGATTT	TCCAATTCTG CCAGGAGAA TATTCAAATA TAAATGGACA
--->	<b>1725</b>	<b>GTGACTGTAG</b>	<b>1680</b>
	1726	AAGATGGGCC	AACTAAATCA GATCCTCGGT GCCTGACCCG CTATTACTCT
--->	<b>1727</b>	<b>AGTTTCGTTA</b>	<b>1740</b>
	1728	ATATGGAGAG	AGATCTAGCT TCAGGACTCA TTGGCCCTCT CCTCATCTGC
--->	<b>1729</b>	<b>TACAAAGAAT</b>	<b>1800</b>
	1730	CTGTAGATCA	AAGAGGAAAC CAGATAATGT CAGACAAGAG GAATGTCATC
--->	<b>1731</b>	<b>CTGTTTCTG</b>	<b>1860</b>

*[Signature]*

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**RAW SEQUENCE LISTING  
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TIME: 11:37:28

**INPUT SET: S23358.raw**

1732 TATTTGATGA GAACCGAAGC TGGTACCTCA CAGAGAATAT ACAACGCTTT  
--> 1733 CTCCCCAATC 1920  
1734 CAGCTGGAGT GCAGCTTGAG GATCCAGAGT TCCAAGCCTC CAACATCATG  
--> 1735 CACAGCATCA 1980  
1736 ATGGCTATGT TTTTGATAGT TTGCAGTTGT CAGTTGTTT GCATGAGGTG  
--> 1737 GCATACTGGT 2040 *base*  
1738 ACATTCTAAG CATTGGAGCA CAGACTGACT TCCTTTCTGT CTTCTTCTCT  
--> 1739 GGATATACTT 2100  
1740 TCAAACACAA AATGGTCTAT GAAGACACAC TCACCCTATT CCCATTCTCA  
--> 1741 GGAGAAAATG 2160  
1742 TCTTCATGTC GATGGAAAAC CCA

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Application No.: 69/001,639

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING  
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
- 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- 7. Other: \_\_\_\_\_

**Applicant Must Provide:**

- An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216  
For CRF Submission Help, call (703) 308-4212  
For PatentIn software help, call (703) 308-6856

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